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Citrus

Annual

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Report Highlights:
China's citrus production is estimated to reach over 10 million tons in crop year 2001/2002. Good weather in most of the citrus growing regions helped boost output to near 1999/2000 levels. Tangerines continue to comprise most of China's citrus production. In addition, China's orange imports continue to rise.

Includes PSD changes: Yes
Includes Trade Matrix: Yes
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Executive Summary

China's citrus production for the crop year 2001/2002 is expected to increase by 14 percent due to good weather conditions and the alternating big/small production year cycle phenomena. Post's estimate of total citrus production is 10.013 million tons. Tangerine variety production should equal 59 percent of total citrus production, 5.9 million tons. Sweet orange variety production should account for 29.2 percent of total citrus production, 2.9 million tons. Pomelo and related citrus production should reach 1,031 thousand tons. China's citrus production during crop year 2000/2001 (last year) was 8.78 million tons, an 18.6 percent decrease in comparison with crop year 1999/2000.

China can produce good quality citrus, but after harvesting the quality quickly declines due to excessive handling during distribution and sales. Post-harvest practices of washing, waxing, and packing tend to be rare. Approximately 80 percent of China's citrus is harvested during the months of November and December.

China's processing industry uses between five to ten percent of the citrus crop each year. The amount of citrus used for canning this year should increase compared to last year, because of the larger crop. Canned fruit is the main processed citrus product and Mandarin oranges are the variety of choice for most canners.

China's citrus exports exceed its imports, but exports mostly comprise of fresh tangerines and canned citrus. When these two products are not considered, China's imports are greater. The United States still is China's main source of imported oranges.

U.S. citrus is now legally importable into China, but the citrus must originate from select counties in certain U.S. states. During the year 2001, most tariffs on imported fresh citrus and processed citrus products decreased, but most cuts were small. By the year 2004, fresh citrus tariffs are expected to fall to 12 percent.

The Chinese exchange rate used for this report is 8.26 Yuan RMB equal one U.S. Dollar. Ten Jiao equal one Yuan RMB. In addition, the Hong Kong Dollar exchange rate used for this report is H.K.$7.79 equal one U.S. Dollar.

Production: General

Post estimates that China's total citrus fruit production for the crop year 2001/2002 will be 10,012,767 tons, a

14 percent increase over last crop year. Tangerines will make up an estimated 59 percent of total production, 5,907,533 tons, and sweet oranges an estimated 29.2 percent, 2,923,728 tons. Pomelo production, including grapefruit, should reach 1,031,315 tons, 10.3 percent of total citrus production. Local lemon production will be an estimated 12,000 tons, a decrease in comparison with last crop year.

Weather conditions for citrus in the growing regions were generally good this crop year. No severe frosts or prolonged periods of freezing temperatures occurred in any of the major growing provinces. The only weather anomaly to have any effect was a drought in Chongqing and Sichuan during the Spring and Summer seasons. Due to the drought, a decrease in citrus production in those provinces should occur this year. Lemon production was particularly hurt by the weather conditions. In late 1999, severe frost and prolonged freezing temperatures in many of China's southeastern growing areas lead to huge citrus production decreases for crop year 2000/2001 (last year). While the frost and low temperatures at that time did not kill the affected region's trees, it did affect many trees' ability to flower in the spring.

Another influence on this crop year's production size was the often-cited big/small production year cycle phenomena. Many local industry participants claim that this crop year was a big production year, while last crop year was a small production year. According to industry participants, under this phenomena, yields will be large one year and then small the next one, afterwards the cycle will start again. Some domestic citrus experts claim that the cause is climate and growing management techniques, while others believe that alternating year cultivars are the primary cause. This phenomena appears to occur throughout China's citrus growing regions, but is most noticeable in the country's southeast region where tangerines dominate citrus production.

During the 2000/2001 crop year, adverse weather conditions and the occurrence of the small production year in the small/big production year cycle caused China's citrus production to fall 18.6 percent to 8,783,129 tons. Production decreases that crop year occurred in 11 of China's 18 citrus growing provinces. Large decreases occurred in the major growing provinces of Zhejiang (down 54 percent), Jiangxi (down 48 percent), Hunan (down 16 percent), Guangxi (down 17 percent), and Fujian (down 18 percent). However, not all of China's major growing provinces were affected and a few even showed production increases. For example, during the same crop year, Sichuan's citrus production rose 14 percent and Chongqing's 11 percent. Sichuan became the leading producing province during the 2000/2001 crop year.

CHINESE PROVINCIAL CITRUS PRODUCTION

PROVINCE	1998		1999		2000	
	Hectares	Metric Tons	Hectares	Metric Tons	Hectares	Metric Tons
Shanghai	5,400	98,651	4,500	133,860	N.A.	101,765

Jiangsu	3,200	31,306	3,200	62,081	N.A.	42,747
Zhejiang	133,900	1,496,872	132,900	2,120,078	N.A.	971,896
Anhui	1,700	2,806	1,960	6,859	N.A.	5,282
Fujian	152,600	1,464,206	148,600	1,589,142	N.A.	1,306,027
Jiangxi	178,150	295,719	177,800	539,222	N.A.	282,976
Henan	4,920	10,899	4,570	14,084	N.A.	21,201
Hubei	103,250	730,900	102,400	993,502	N.A.	946,236
Hunan	241,400	899,125	245,800	1,496,568	N.A.	1,259,154
Guangdong	84,550	756,912	79,410	836,091	N.A.	810,595
Guangxi	107,100	869,857	105,100	1,061,790	N.A.	879,914
Hainan	800	10,921	600	11,219	N.A.	13,741
Chongqing	60,200	546,494	60,000	526,695	N.A.	583,944
Sichuan	143,000	1,178,350	152,500	1,162,243	N.A.	1,327,534
Guizhou	25,000	86,624	34,200	112,731	N.A.	101,340
Yunnan	16,400	81,524	17,600	89,435	19,544	91,640
Shaanxi	8,070	27,672	11,030	29,588	N.A.	35,155
Gansu	700	1,522	700	1,871	N.A.	1,982
TOTAL	1,270,340	8,590,360	1,282,870	10,787,059	1,275,000	8,783,129
Sources: China Agricultural Yearbooks 1997 and 1998, China 1999 Statistical Yearbook, various provincial agriculture bureau estimates						

China: Citrus Production Estimate by Variety, Crop Year 2001-2002
(Metric Tons)

Variety	Amount	Percentage of Total Production	Main Production Provinces	Notes
Mandarin Oranges	3,837,000	38.3%	Zhejiang, Fujian, Hubei,	1, 3
			Guangxi, Hunan	1

Peng/Lo Tangerines	1,020,000	10.2%	Zhejiang, Fujian	1
Red Oranges	604,000	6.0%	Sichuan, Chongqing	1
Jiao Tangerines	354,000	3.5%	Guangdong, Guangxi	1
Other Tangerine Varieties	105,000	1.0%		1
Navel Oranges	765,000	7.6%	Sichuan, Hubei, Jiangxi	2
Jin Oranges	724,000	7.2%	Sichuan, Chongqing	2
Snow Oranges / Xue Gan	643,000	6.4%	Zhejiang, Fujian, Guangdong	2
Red River Oranges	169,000	1.7%	Guangdong	2
Other Sweet Orange Varieties	630,000	6.3%		2
Shatin Pomelos	495,000	4.9%	Guangdong, Guangxi,	
			Sichuan, Chongqing	
All other Pomelo varieties	539,000	5.4%	Guangdong, Guangxi,	
			Sichuan, Chongqing	
Lemons (all varieties)	12,000	0.1%	Chongqing, Sichuan	
Kumquats (all varieties)	20,000	0.2%	Hunan, Jiangxi, Zhejiang	
Unknown/Not Specified/Other	95,767	1.0%		
TOTAL	10,012,767	100.0%		

Notes
1) Tangerine Variety
2) Sweet Orange Variety
3) includes ordinary Honey Tangerines
Source: Estimates based on interviews with local citrus industry and government officials, and published sources.

Climate and Soil Characteristics of Selected Chinese Citrus Growing Provinces

	Average Yearly Rainfall (mm) (a)	Days without Frost each Year	Soil pH Level Range	Average Yearly Sunshine (hours)
Sichuan	1,000 (b)	280 - 300	5 - 7	1,200 - 1,600
Chongqing	1,000	280 -350	5 - 8	1,100 - 1,450
Hunan	1,200 - 1,700	N.A.	N.A.	1,000 - 1,300
Hubei	750 - 1,500	220 - 300	5 - 7.5	1,800 - 2,000
Guangdong	1,500+	300+	5.5 - 6.5	1,800 - 2,400
Guangxi	1,200 - 1,800 (b)	300+	4 - 7	1,400 - 1,900
Zhejiang	1,200 - 1,800	235 - 250	6 - 7.5	1,800 - 2,100

Jiangxi	1,500-1,700	N.A.	N.A.	1,700 - 2,100
Fujian	1,032 - 2,100	300+	N.A.	1,400 - 2,000
Shanghai	1,000 - 1,100	225 - 235	8 - 8.5	2,000 - 2,200

Notes:
a) Average for whole province unless otherwise noted
b) Average in the province's main citrus growing areas
Sources: various citrus production reference books and interviews with local citrus industry officials

Over the near future, China's citrus production might be relatively stable with only slight variations in crop size from year to year. According to one expert from China's National Citrus Institute, continued low prices and limited export markets will most likely prevent huge citrus production increases anytime soon. However, another expert from the same institute feels that further development of the local citrus processing industry might change this situation.

China's main tangerine varieties include the Mandarin orange and the Peng/Lu tangerine. These two varieties usually account for a large portion of China's annual citrus production. The Mandarin is the preferred variety of most of the country's citrus canners. Mandarin oranges were once the overwhelmingly dominant citrus variety grown in China. Although its percentage of the annual crop continues to be substantial, this percentage has decreased over the last 15 years. Mandarin oranges are currently grown in nearly every citrus growing province in China.

In regards to sweet oranges, Jin and Navel oranges are the most widely grown. Most Navel orange production in China occurs in Sichuan, Chongqing, Hubei, and Jiangxi. In comparison with all of the citrus varieties grown in China, naval orange production has grown the most over the last ten years. They are now grown in 256 counties, representing 10 different provinces.

China's lemon production is generally small and concentrated in Sichuan and Chongqing. The main lemon growing county within Sichuan province is Anyue county and within Chongqing Wan county. The main lemon varieties grown in China are the Eureka and the Beijing. The Beijing lemon variety in comparison with Eurekas tends to have a smoother peel and a slight orange color. Locally grown Eurekas tend to have low levels of acidity and vitamin C.

Pomelos also are grown in China. Although this fruit usually accounts for only a small percentage of China's total citrus crop each year, only tangerines and sweet oranges are more widely grown. A large amount of pomelo production occurs in the southern provinces of Fujian, Guangdong, and Guangxi. Several different varieties are produced, but the Shatin Pomelo is the most prominent. Accounting for the fruit's popularity in China is the fruit's thick skin, making the fruit more durable during handling, transportation, and storage. Some grapefruit production also occurs in China and its production usually is classified along with pomelos, but production and acreage are much lower than that of pomelos.

Kumquat production in China, like lemon production, is limited. In the late 1990s, one Chinese published source claimed that local kumquat production was 17,000 tons on an acreage of 7,054 hectares. No specific year was cited. The main growing provinces include: Fujian, Guangxi, Hunan, Jiangxi, and Zhejiang. Although several varieties are grown in China, the main one is "Jindan", better know as F. Crassifolia Swingle. Like all other citrus fruit in China, kumquats mostly are harvested during November and December.

China generally produces only a small amount of high quality citrus every year. According to a member of China's National Citrus Institute in Chongqing, only approximately 30 percent of the country's citrus production every year can be classified as superior quality, while 20 percent is usually poor quality. Another expert from the same institution claims that citrus variety quality also varies across regions of the country due to climatic differences. For example, he says that the climate in Hunan province makes its Peng tangerines better quality than those grown in Sichuan or Chongqing, but the reverse is true with Mandarin Oranges for the same reason. As with China's other fruit processing industries, the local citrus processing industry often uses the poorer quality fruit for their purposes.

Aside from variety, China also classifies its citrus fruit according to when it is ready for harvest. The classifications are early harvest, middle harvest, and late harvest. Early harvest refers to citrus that can be harvested before November, middle harvest during November and December, and late harvest after December. An estimated 80 percentage of China's citrus fruit is harvested during November and December of each crop year and in some provinces the percentage is 90 percent or greater. In 1997, the National Ministry of Agriculture initiated a program to promote the growing of more early and late harvest citrus varieties in order to extend the citrus harvest and processing seasons. Six provinces are participating in the program, including Hunan, Sichuan, and Zhejiang. Some local citrus experts predict that in the near future the production of early and late harvest varieties will equal 25 percent of total output. At present, approximately 15 percent of China's citrus production is early harvest and only five percent late harvest.

Harvest Periods for Selected Citrus Varieties in China by Province

Province	Variety	Harvest Period
Guangdong	Peng Tangerines	Early December
	Jiao Tangerines	Late December to Early January
Sichuan	Sweet Oranges	Mid to Late November until Early to Mid December
	Red Oranges	Early to Mid November
	Lemons	November
Zhejiang	Bendizao Tangerines	Early to Mid November
	Early Harvest Mandarin Oranges	Mid October
Jiangxi	Nanfeng Mandarin Oranges	Early November
	Peng Tangerines	Mid to Late November

	Naval Oranges	Mid to Late November

Production: Crop Area

China's citrus growing belt lies between 16 and 37 degrees latitude above the equator, but the majority is grown between 20 and 33 degrees latitude above the equator and at a height of 700 to 1,000 meters above sea level. Altogether 19 of China's 30 provinces and city districts grow citrus fruit. Within these 19 provinces and city districts, 985 counties report citrus production. Although some counties in Tibet produce citrus fruit, acreage and output is so insignificant that related statistics often are not reported.

Overall citrus acreage in China has been stable since the 1995-1996 crop year, hovering between 1.2 and 1.3 million hectares. However, at the provincial level, a few trends have developed.
From crop year 1996-1997 to 1999-2000, a few major citrus producing provinces have been showing steady declines in acreage. These provinces are Zhejiang, Fujian, and Guangdong. While during the same time period, the only major citrus producing province that showed a steady increase in acreage was Hunan province.

A substantial amount of China's citrus fruit is grown on hilly, uneven land, because much of the country's flatter lands are reserved for grain production. In places where citrus is grown on flatter land, grove sizes tend to be larger. Tree planting patterns also tend to differ between even and uneven land. Scattered planting tends to prevail on uneven lands, while rows often dominate even land. On hill and mountain sides, citrus trees usually are planted on terraces that follow the contours of the hill or mountain. Planting styles also differ from location to location. In Zhejiang province, for example, some citrus trees planted in rows are usually on rows of raised mounds which are flanked by shallow trenches. The trenches are used to facilitate irrigation and the application of fertilizers. However, in Sichuan, citrus trees planted in rows tend to be even with the ground and not on raised mounds. Trenches are absent too. In addition, throughout China's citrus growing regions, when citrus trees are planted in rows, the spacing between the rows and trees tends to fall into a range of three to five meters.

Much of China's citrus crop is grown on alkaline soil. The pH level in many of the growing areas is high, ranging from seven to eight. In most of the Chongqing and Sichuan growing areas, for example, pH levels tend towards seven and above. One citrus growing area with a low pH level is southern Guangxi, near the city of Beihai. Its level is about five. Beihai is where Seagrams' Tropicana years ago set up overseas invested citrus farm, but sold the project to the New Asia Group in 1999. This year the Fujian's Chaoda Modern Agriculture Group bought 50 percent of the farm for H.K.$ 1.5 billion (U.S.$ 192,554,557). The farm's total citrus acreage was 3,134 hectares.

Production: Inputs

The use of fertilizers and pesticides is quite common among China's citrus growers, while the use of machinery is extremely rare. Fertilizers, pesticides, and various other agricultural chemicals often are growers' largest expenses, ranging from 30 to 60 percent of their total growing costs per year. In regards to pesticides, China has established standards on residue tolerances that cover a wide variety of chemicals. However, enforcement of these regulations is uneven.

Citrus growers usually apply pesticides and disease prevention chemicals several times a year during the growing season. The average number of applications each growing season by growers is approximately three, but in some regions the number is higher. For example, according to one grower in Jiangxi, he applies pesticides and disease prevention chemicals about four to five times each year. In addition, some growers restrict the usage of these chemicals to only certain times of the growing season. In Chongqing and Sichuan, nearly all of the growers interviewed by Post only apply these chemicals between the months of March and July. According to these growers, application mainly is performed during these months, because insect infestation and disease occurrence often is at their height during that period.

The specific costs of pesticides and disease prevention chemicals varies among growers, depending mostly on a grower's grove size, the specific chemicals used, and the amounts believed to be necessary per tree. One grower in Sichuan claimed that when he uses a great amount of these chemicals the cost will range from 200 to 300 Yuan RMB (U.S.$ 24.22 to 36.32) for the season. However, when he uses a smaller amount during a season, the cost drops to less than 100 Yuan RMB (U.S.$ 12.11). In their usage of these chemicals, growers also rarely seem to exhibit brand or product loyalty. Based on an informal survey of various groves and the empty agricultural chemical packages littering them, Post noticed that it is common to see empty bottles and packets representing a wide variety of chemicals and brands in any particular grove.

Fertilizer usage is common in China's citrus groves and the usage of chemical fertilizers seems to be more common in the larger groves. Growers with small holdings, the majority of China's citrus growers, often rely on natural fertilizers for their trees, applying one and a half to two and a half kilograms of vegetative or other natural waste per tree. Of those growers who regularly use chemical fertilizers, they often have claimed that their fertilizer costs per kilogram is only around one Yuan RMB (U.S.$ 0.12). In addition, users of chemical fertilizers usually try to limit application due to a general belief that using too much will cause the taste of the trees' fruit to turn sour.

Most citrus growers in China do not use any machinery in the growing or harvesting process, because of their groves' topography and size. The hilly, uneven land on which most of China's citrus fruit is grown is unsuitable for the use of machinery. In addition, the small sizes of most groves prevent growers from gaining cost savings through economies of scale with labor saving machinery. Labor costs remain very low in China, especially in the rural areas, and most growers only have less than two mu of land dedicated to citrus growing. One mu equals one-fifteenth of a hectare. Of those growers with sizable groves, during harvest time, they sometimes will hire outside workers to assist with picking the fruit. According to one grower in Sichuan, finding outside labor usually is not difficult and payment for an individual's work is less than 20 Yuan RMB (U.S.$ 2.42) per day plus meals.

The use of growth regulators is rare, except among some navel orange growers. These few growers tend to use these regulators to control the timing of the bloom period. The two most popularly used regulators are known as BA and GA4.

Irrigation is not a big concern of many growers. Mechanized irrigation systems in citrus groves or even simple rubber/plastic pipes that connect groves to water sources are extremely rare. These growers tend to rely on nature to supply their trees with enough water, but will irrigate by hand if necessary. Many growers do not even create trenches in their groves or plant their trees on mounds which would facilitate hand irrigation. The main reasons for not using mechanized irrigation systems are that these systems are expensive for most growers and equipment theft problems are common in the countryside. The period when citrus growers pay most attention to

irrigation of their trees is the bloom period, approximately March to May, for nearly all of the country's citrus varieties.

Production: Yields

The widespread use of Trifoliate Orange as rootstock by Chinese citrus growers has probably been one of the major influences on domestic citrus yields. Its popularity stems mainly from trees using it as rootstock tend to grow to a moderate size, allowing for greater density in groves. In addition, Trifoliate Orange is not as susceptible to diseases such as tristeza. Trifoliate Orange rootstock is used in almost every one of China's citrus growing provinces, except for Guangdong and Guangxi. In these provinces, the preferred rootstock varieties are Sour Orange and Red Limeng. As for other rootstock varieties, Red Orange is popular in Chongqing, Sichuan, and Hubei provinces. In Sichuan, some growers are using pomelo rootstock to grow lemons.

Another major factor influencing citrus yields in China is tree planting density. China's citrus groves tend to contain more trees per hectare than in other citrus growing countries such as the United States. Citrus tree planting density in the U.S. averages around 360 trees per hectare, while in China densities range between 675 and 1,200 trees per hectare. Specific densities in China usually depend on citrus variety and grove location, i.e. on relatively even land or the side of a hill. While planting more trees per hectare will yield more fruit in the short term, as the trees grow larger yields will fall due to thicketing. As groves grow into thickets, the amount of sunlight reaching as much of the trees as possible falls and causes tree fruit production to decline. The widespread use of Trifoliate Orange rootstock limits, but does not completely eliminate the thicketing effect.

Based on recent interviews with citrus growers in Chongqing and Sichuan, average annual yields per citrus tree tended to range between 20 and 90 kilograms. However, most fell into the range of 40 to 50 kilograms. Specific yields per tree depended greatly on variety grown, tree age, and the level of grove management. For example, in the Chongqing and Sichuan growing areas, Naval orange trees often produce more fruit than other varieties.

Citrus trees throughout China on average lead productive lives of 20 years or more, providing they receive proper care and management. According to local officials in various growing regions throughout the country, good grove management tends to be the norm. However, in Guangdong, the situation is different. According to officials connected with the citrus industry, poor grove management is more prevalent and has decreased the average productive life span to 10 to 12 years.

Bloom periods for China's citrus trees vary, depending on specific variety and geographic location. For example, ordinary Sweet Orange, Jin Orange, and Snow Orange trees all bloom sometime during the months of March and April. However, the Peng/Lu Tangerine trees usually do not bloom until early May. In addition, the fruit/flower ratio for most citrus varieties in China is low. The ratio for Sweet Oranges and Peng/Lu Tangerines ratio ranges between 0.5 and three percent, while for Naval Oranges it is often under one percent. For most other citrus varieties in China, the range is between two and seven percent.

Some citrus growing areas in China are susceptible to weather anomalies. Typhoons have been known to cause damage in the south coastal provinces of Fujian, Guangdong, and Guangxi, but crop destruction is usually limited to those places close to the coastline. Severe frosts are known to sometimes affect Jiangxi, Hunan, Hubei, Sichuan (areas above 500 meters sea level), and Zhejiang provinces. Since the early 1950's, citrus crop

damaging frosts have occurred in Jiangxi province eight times and in Hunan province four times. The most recent damaging frost occurred in December 1999 and affected most of the citrus producing provinces in southeast China. This frost and low temperatures affected some of the hillside citrus groves in a peculiar manner. In southern Jiangxi province, for example, only citrus trees on the bottom terraces of hillside growing areas were affected, while those on the upper terraces escaped with little to no damage.

Production: Crop Quality

China's citrus groves can produce good quality fruit, but the quality of much of the crop every year is quickly degraded by poor post-harvest handling techniques. It is common for a piece of citrus fruit to be handled by a half dozen or more pairs of hands before it is finally touched by the end consumer. Washing, waxing, or even packaging the fruit before final sale often is not done by growers or distributors. However, some wholesalers will wash their citrus fruit at the local markets before offering the fruit for sale. In addition, many domestic distributors and wholesalers will loosely store their fruit in the back of trucks with limited to no protection from the elements and dump the fruit on the ground at the market. A majority of China's citrus fruit is distributed by individual growers, private distributors, and wholesalers instead of government-owned companies. In Sichuan, for example, many individual growers and groups of growers often handle their own distribution to and sales at wholesale markets. The main reason is that private distributors often will not travel to the province's more hilly and mountainous regions where much of the citrus is grown. Poor roads and few large scale growers in these regions makes citrus distribution much more costly than for other agricultural products in different places in China.

Nationally-mandated citrus fruit grading standards exist in China and cover both fruit quality and size. However, after the harvest, size seems to be the only factor that matters among domestic distribution participants. Some local distributors and processors generally ignore the published standards and practice their own simplistic grading systems based solely on fruit size. Under these systems, often only two grades exist: big and small. The definitions of big and small size can differ between distributors and processors throughout the country. To measure sizes, simple tools are used. Two known examples include a wooden card with two holes indicating the appropriate big and small sizes and a couple of metal rings welded together, one the big size and the other the small size.

Diameter Length Standards for Domestically Produced Citrus Fruit (Millimeters) in China						
	Grade 1	A Grade	Grade 2	B Grade	Grade 3	C Grade
Sweet Orange Varieties						
Navel Oranges	65-85	70-85	>60	70-80	>50	65-75
Huazhou Oranges	65-90	70-85	>60	70-80	>50	65-75
Ordinary Sweet Oranges	65-90	70-85	>60	70-80	>50	65-75
Snow Oranges	>60	70-85	>55	70-80	>50	65-75
Jin Oranges	>60	65-80	>55	65-80	>45	>60
Xia Oranges	>60	65-80	>55	65-80	>45	>60
Blood Oranges	>60	65-80	>55	65-80	>45	>60
Liu Oranges	>55	>65	>50	>60	>45	>55
Taoye Oranges	>55	>65	>50	>60	>45	>55

Tangerines Varieties						
Jiao Tangerines	>55	>65	>50	>60	>45	>55
Fujian Jiao Tangerines	>65	>70	>55	>65	>50	>65
Mandarin Oranges	60-80	65-80	>55	65-80	>50	60-80
Peng Tangerines	>65	>75	>60	>70	>55	>65
Lu Tangerines	>70	>75	>65	>75	>55	>70
Red Oranges	>60	>65	>55	>65	>45	>60
Zao Tangerines	>55	>65	>50	>60	>45	>55
Bendizao	>50	>60	>45	>55	>40	>50
Nanfeng Mandarins	>35	>40	>30	>40		>35
Lemon Varieties						
Eurekas	55-80	60-75	>50	60-75	>40	55-60
Lisbons	55-80	60-75	>50	60-75	>40	55-60
Note: A, B, and C Grades refer to exported fruit.						

Disease and insect damage to China's citrus crop every year usually is extremely limited in most of the country's growing areas, less than 10 percent of the crop, due mostly to improved tree management techniques and liberal usage of pesticides. The main diseases that concern China's citrus growers are: Liepi Disease (Citrus exocortis viroid), Tattered Leaf Disease, Citrus Canker (Xanthomonas campestris pv. Citri (Hasse) Dowson), and Yellow Dragon Disease. As for insects, mites tend to present the biggest problems, including Red Spider Mites and other types.

Yellow Dragon disease continues to be a problem in parts of Guangdong, Guangxi, Fujian, and Yunnan provinces. However, local Guangdong officials believe that it is now under control, but not yet completely eradicated in their province. This disease has yet to spread to any other provinces' citrus groves, but growers in a few of the neighboring provinces monitor the situation and show some concern that this disease might appear in their groves someday. Yellow Dragon disease is difficult to detect and in its early stages gives the impression that the infected tree is only suffering from a nutrient deficiency. The disease is a plant virus, but psyllid, aphid like insects, are its vector. In the U.S., a similar disease is commonly referred to as "greening". One citrus expert in China claims that this disease and canker is endemic to the country's far southern growing areas and probably will never be completely eradicated due to climatic conditions.

China's citrus industry also has started to encounter post-harvest disease problems, particularly in regards to fruit storage. Although many growers and distributors have started to lessen their reliance on the use of simple holes in the ground to store their fruit, using more advanced storage facilities still is not popular. Exposure to prevailing temperatures and humidity conditions has allowed various molds and bacteria to damage stored fruit. Some of the more prevalent types which have been appearing in China include: Penicillium italicum Wehner, Penicillium digitatum Saco, Alternaria citri Elliset Pierce, Phomopsis citri Faw, Diplodia natalensis Evans, Phytophthora citri Phthora, Oospora citri-aurantii (Ferr.), and Colletotrichum gloeosporioides Penz. To limit such damage, many growers have started to wrap individual pieces of fruit in plastic wrapping paper before placing in storage.

Production: Production Policy

China's national government continues to provide passive support for citrus production, but does not pursue policies of active assistance. However, at some provincial and county levels, the government is more actively involved. Specific assistance activities and policies differ between locales.

The most widely offered form of local government assistance available to China's citrus growers probably is low interest loans. These loans allow growers to purchase fertilizers, pesticides, pruning services, and other necessities during the growing season. Repayment of these loans usually starts after two to four years when the trees start to produce fruit. Subsidized inputs are rarely available to the citrus growers, except in special cases. Aside from low interest loans, information and technical assistance are the two most common forms of help given to China's citrus growers.

An example of subsidized assistance now occurring in China is Sichuan province's Anyue county paying growers to start raising lemons. According to local lemon growers in that county, the local government now pays growers 100 Yuan RMB(U.S.$ 12.11) per mu to start growing lemons. The payment only occurs once and the money is supposed to be used by the growers to buy seedlings and other inputs.

Years ago, government agencies used to give away citrus seedlings for free to potential growers, but such give-aways are rare today. Now growers must buy their seedlings, but costs are relatively inexpensive, approximately two Yuan RMB (U.S.$ 0.24) per seedling. Government agencies in some provinces will sell seedlings at subsidized rates, but the seedlings for sale usually are new varieties which the local government wants to promote, i.e. early and late harvesting ones.

Farmgate prices for citrus growers remain low. In Chongqing and Sichuan, growers on average receive less than two Yuan RMB (U.S.$ 0.24) per kilogram of fruit. Prices for good quality Sweet Oranges and Peng Tangerines were usually less then 1.8 Yuan RMB (U.S.$ 0.22) per kilogram, while poor quality fruit of these varieties and others were around 0.5 Yuan RMB (U.S.$ 0.06) per kilogram or less. At the local wholesale level, prices were no different. Sweet Oranges, mostly Naval varieties, averaged between 0.8 and 1.2 Yuan RMB (U.S.$ 0.10 to 0.15) per kilogram during November 2001 at Sichuan's Neijiang City fruit wholesale market. While in Chengdu city, wholesale prices during the same month ranged between one and 1.6 Yuan RMB (U.S.$ 0.12 to 0.19) per kilogram for Naval Oranges, 0.8 and one Yuan RMB (U.S.$ 0.10 to 0.12) for Red Oranges, and less than two Yuan RMB (U.S.$ 0.24) for Peng Tangerines. Lemons at wholesale markets in Chongqing and Sichuan tended to command the highest prices. The price range for Eureka lemons was three to four Yuan RMB (U.S.$ 0.36 to 0.48) per kilogram and for Beijing lemons 1.4 to two Yuan RMB (U.S.$ 0.17 to 0.24). Growers continue to be dissatisfied with the continued low prices, but see little alternative to growing anything else.

As with growers of other fruits, China's citrus growers are required to pay a Specialty Product Agricultural Tax. However, in some citrus growing regions, growers claim to be exempt from paying this tax. Many growers who use hilly/mountainous land and were interviewed by Post claim that they do not pay any agricultural tax, because they took land that was previously classified as unproductive and found an agricultural use for it. However, many also stated that a small tax on their holding's size is often assessed. Quoted annual tax payments ranged from 30 to 80 Yuan RMB (U.S.$ 3.63 - 9.69) per mu. Not everyone is exempt from the specialty tax. Growers using flatter land to grow citrus still must pay. According to various sources, the tax rate ranges between six to seven percent. How the tax is administered is determined by the local counties. Some counties charge according to income, others based on acreage, and others use other assessment methods. In addition, citrus growers are assessed commercial taxes.

Another recent development is the rise in grower marketing cooperatives. As has been occurring in northern China with some deciduous fruit growers, citrus growers in some locations have been banding together and jointly marketing their production in order to achieve a better return for their produce. According to one local government official, this activity started about five to six years ago.

Consumption: Fresh Consumption

Over 90 percent of China's citrus crop is consumed fresh every year. Fresh fruit in China, including citrus fruit, remains a popular snack, gift, and concluding dish at the end of restaurant meals. Fresh fruit purchases at least by urban households remain sizable and are expected to increase as the country's standard of living rises. Households with higher incomes still buy much more fresh fruit than those with lower incomes.

Chinese households mostly purchase domestically produced fruit due to its lower price. For example, in Guangzhou supermarkets, half a kilogram of imported oranges will cost an individual 8.5 Yuan RMB (U.S.$ 1.03), but domestic oranges for sale on the street will only cost 0.8 Yuan RMB (U.S.$ 0.10) or less per half kilogram. However, unlike most domestic fruits, imported varieties usually are available to local consumers during the whole year. In addition, the good outward appearance makes imported fruit better gifts during holiday periods.

China: Urban Households' Per Capita Annual Purchases of Fresh Fruits and Melons (kilograms)

	1995	1996	1997	1998	1999	2000
National Average	36.56	40.72	45.48	47.86	46.07	49.13
Highest 10% (1)	51.32	56.15	61.73	63.37	62.64	67.18
Lowest 10% (1)	22.21	26.46	29.03	31.20	29.82	31.55

(1) In terms of household income
Source: China Statistical Yearbooks 1996 - 2001

Guangdong Province: Urban Households' Average Per Capita Annual Purchases of Selected Fresh Fruits (kilograms)

	1995	1996	1997	1998	1999	2000
Apples	5.70	6.20	6.33	6.22	6.3	6.85
Citrus	**3.15**	**2.79**	**3.23**	**3.61**	**3.3**	**3.23**
Oranges	**1.00**	**0.91**	**1.41**	**1.04**	**1.3**	**1.01**
Bananas	3.01	1.83	3.66	3.41	2.8	2.49
Grapes	0.62	0.76	0.82	0.81	0.8	0.9

Source: Guangdong Province Statistical Yearbooks 1996 - 2001

Consumption: Processing

Every year approximately five to ten percent of China's citrus production is processed into other products, mostly canned citrus and some juice concentrate. The amounts of citrus used for processed product most likely will be higher this year than last year, due to the larger harvest. Local experts claim that processed citrus product production in China last year was lower than during previous years. Although local sources have not published any recent processed citrus product production statistics, industry sources report that China in 1997 produced 300,000 to 400,000 tons of canned citrus, approximately 100,000 tons of citrus juice concentrate, and 10,000 to 20,000 tons of citrus jam/other products.

Last year, due to the severe frost and freezing temperatures in the country's southeast growing regions, many citrus canners and concentrate producers either ceased production or switched to other products, complaining that the smaller crop size has caused production costs to rise and erase profit margins. Some canners even ceased production due to the lack of raw materials. One Jiangxi province processor recently told Post that last year they could not find any citrus to can, but this year Mandarin oranges are much more plentiful and they pay about 0.6 to 0.8 Yuan RMB (U.S.$ 0.07 to 0.10) per kilogram. Processors traditionally pay low prices for their citrus, sometimes as low as a few Jiao RMB per kilogram. In addition, processors only tend to use poor quality fruit for their products.

In general, provincial processing rate vary throughout the country. Zhejiang, usually China's leading provincial citrus producer, often processes 10 percent or more of its harvest every year, while Guangdong, a big provincial producer, processes very little of its harvest every year. Zhejiang province's canned citrus output in 1998 was 140,000 tons and in 1999 reached 180,000 tons. Zhejiang's canned citrus output for this marketing year has been predicted to be 160,000 tons. Other provincial citrus processing rates include: Hubei, approximately seven percent, and Jiangxi, three to five percent. Both Chongqing and Sichuan once had thriving citrus canning industries whose products were exported abroad, but now no longer exists due to the lack of overseas customers.

The citrus processing season only lasts a few months every year, starting in October and ending in March. However, a majority of the production usually occurs from November to January. One orange juice concentrate manufacturer in Jiangxi province, for example, says that, although his factory facilities have the capacity to produce five tons of concentrate each hour, his factory only produces concentrate during the months of November and December. The main reason for the processing industry's short season is the lack of proper and large-scale storage facilities for domestic citrus. Neither local distributors nor processors in general have been interested or willing to invest in such facilities.

In regards to canned citrus, the main variety used is Mandarin oranges. Except for a few factories that can kumquats, nearly all canned citrus in China is canned Mandarins. Citrus canning factories in China, even those producing for export, tend to be labor intense operations. These factories employ hundreds of people to peel, segment, sort, and fill cans, while using machinery to only attach lids and move the cans to the packaging area.

Unlike canning, citrus juice concentrate processors in China do not rely on one particular variety. In the eastern part of the country, processors mainly use Mandarin oranges, ordinary Sweet Oranges, and Peng/Lo tangerines. While in the western part, processors prefer sweet orange varieties such as the Jin and Hamelin oranges, both of which are good for juicing. Citrus concentrate produced in China often lacks pulp, because low labor costs allow processors to hire many workers to peel the fruit before processing.

China's citrus concentrate producers generally require 14 to 15 tons of fruit in order to produce a ton of 65

percent brix strength concentrate. An estimated 20 to 30 citrus juice concentrate production lines currently are in operation in China. Although orange juice consumption in China has risen over the last several years, China's average yearly individual consumption rate of orange juice remains at less than one liter. Despite current low demand, the United Nations Food and Agriculture Organization predicts that China's domestic demand for processed citrus product will reach 1.82 million tons by the year 2005 and much of this demand will be for juice products. Of this predicted demand, 1.3 millions tons will be for orange juice and 450 thousand tons for grapefruit juice. On the production side, a published Chinese source recently claimed that within ten years local citrus juice concentrate production will rise to over 500,000 tons.

Overseas investment in citrus processing to date has been limited, but a few big projects exist. The most high profile one is Seagram's U.S.$55 million investment in citrus groves and a processing plant near the Three Gourges area in the eastern part of Chongqing District. Started in 1999, the project covers both citrus growing and processing the citrus into juice concentrate. Although the processing plant will not be producing citrus juice concentrate for another few years, it is uncertain whether the investors have started or will be developing a marketing plan for their production. According to a source, one of the problems with the Seagram's failed Guangxi Beihai citrus groves project was that the investors and the management team did not develop a marketing plan for their produce. They focused exclusively on production to the neglect of what to do with the output after harvest. As for other places in China, German investors have established a citrus processing plant in southern Hunan to produce citrus juice concentrate for export to Europe.

Stocks

By the end of every crop year, China's fresh citrus stocks usually are depleted. Most of each citrus crop is sold immediately after it is harvested, while the remainder is kept by growers until prices improve during the Chinese New Year period. In Guangdong, for example, growers on average store one third of their crop for later sale. Usually by May of each year, growers have sold all of their remaining stocks.

Unlike in most of China's apple growing regions, no major effort has been made to construct advanced cold storage facilities dedicated to harvested citrus. Such facilities exist in many of China's citrus growing regions, but are mainly used for vegetables and other agricultural products. In Chongqing and Sichuan, for example, since most of participants in citrus distribution are small scale, they have little incentive to use advanced storage facilities due to relatively high costs.

Despite non-use of more technically advanced storage facilities, growers and distributors have started to improve their citrus storage capabilities. Burying citrus under ground as a storage solution is starting to become a rarity. The use of above ground buildings has become more prevalent. Many of these buildings which were originally used for other purposes are filled with shelves and cabinets for the fruit. Underground storage has not totally disappeared, but the method has been upgraded. Instead of dirt, these facilities are now starting to be made of concrete and the lips of the entrance covers are lined with mud or straw. In Sichuan province's Nanchong district, over 70 percent of the citrus harvest still is stored underground. In some places, for example Fujian province's Mingqing county, the use of caves for citrus storage still occurs.

Even growers are using this above ground method. In Chongqing and Sichuan citrus growing areas, many growers visited by Post used sheds and rooms in their own homes to store their harvested citrus. These growers often laid plastic sheets or straw on the ground in these rooms before using them for citrus storage. In addition,

as a part of the storing process, growers often will wrap individual pieces of fruit in paper or plastic in order to assist with preservation.

The citrus varieties in China that are stored the most often are usually varieties with thicker peels. According to various local experts, Naval, Mandarin, and Jiao oranges can last up to three months in storage, while pomelos four to five months.

Despite the incremental improvements in storage techniques, the crop spoilage rate remains high. In a published source, one local expert last year claimed that China's citrus crop loss rate ranges between 25 and 30 percent each year.

Trade

China's citrus and citrus products exports in general are greater than its imports, but when focusing on specific commodities and products a few exceptions exist. These exceptions where imports exceed exports include: oranges, lemons/limes, frozen orange juice, and orange juice not frozen. China's main citrus exports are tangerines and canned citrus which is primarily canned mandarin oranges.

The United States continues to be China's main source for imports of fresh and dried citrus. For marketing year 2000/2001, China's imports of U.S. oranges, tangerines, lemons, and grapefruits were higher than the year before. Oranges comprise a major part of China's fresh and dried citrus imports. While for processed citrus products last marketing year, China's main import source differed from product to product. Brazil was the main source for frozen orange juice, Australia for orange juice not frozen, and the United States for grapefruit juice.

Despite the poor citrus crop last season, China's citrus exports were relatively unchanged. Fresh and dried tangerine exports declined a little, but canned citrus exports were approximately the same as the previous marketing year's totals. For marketing year 2000/2001, fresh and dried tangerine exports were 155,058 tons at a value of U.S.$39.2 million, while canned citrus exports were 169,374 tons with a value of U.S.$119,753. While most of China's fresh and dried citrus exports go to Hong Kong, Russia, and the countries of Southeast Asia; processed citrus products, particularly canned products, are mainly exported to the more economically developed nations of Japan, Germany, and the United States.

China's imports and exports also display seasonality trends. Based on monthly trade date covering the last several years, orange imports tend to be greatest during the summer months, while orange exports are usually high from November to May. As for tangerine exports, volume is often at its highest from November to March.

Imports of Citrus to China, China Customs Data (Value: $'000, Volume: Metric Tons)				
Imports: ORANGES, FRESH OR DRIED (HS 0805.1000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A.	12,083	26,642	18,125	36,822
Australia	62	148	0	0
South Africa	297	659	181	330
Canada	27	67	0	0
New Zealand	8,783	19,458	8,524	19,909
Chile	65	136	7	17
Brazil	0	0	0	0
Japan	0	0	0	0
Philippines	8	20	0	0
Malaysia	0	0	0	0
Thailand	27	68	0	0
Taiwan	114	271	4	5
Spain	0	0	0	0
Indonesia	22	51	0	0
Uruguay	0	0	0	0
Argentina	0	0	0	0
Israel	0	0	0	0

Turkey	0	0	0	0
Morocco	0	0	0	0
Other	81	190	1	0
TOTAL	21,569	47,710	26,842	57,082
Source: China's Customs Statistics				

Imports: TANGERINES, FRESH OR DRIED (HS 0805.2010, 0805.2090) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A.	0	0	784	2,268
Canada	0	0	0	0
Australia	0	0	0	0
Argentina	20	41	0	0
New Zealand	1,716	3,694	1,015	3,070
Indonesia	0	0	0	0
Malaysia	23	45	0	0
Nepal	7	19	0	0
Japan	0	0	43	124
Vietnam	0	0	0	0
Taiwan	8	16	112	218
Thailand	12	25	0	0
Other	1	0	2	0
TOTAL	1,787	3,841	1,956	5,680
Source: China's Customs Statistics				

Imports: LEMONS AND LIMES, FRESH OR DRIED (HS 0805.3000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A	868	1,741	1,711	3,543
Canada	0	0	0	0
Japan	1	0	0	0
Taiwan	0	0	0	0
Vietnam	0	0	0	4
Philippines	0	0	0	0
Thailand	54	122	105	168
Nepal	1	4	0	0
Argentina	0	0	0	0
Chile	0	0	0	0
New Zealand	700	1,701	975	1,998
South Africa	0	0	13	24
Other	0	0	0	0
TOTAL	1,624	3,569	2,804	5,736
Source: China's Customs Statistics				

Imports: GRAPEFRUIT, FRESH OR DRIED (HS 0805.4000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A.	373	517	950	1,798
Canada	0	0	0	0
South Africa	0	0	0	0
Japan	26	49	0	0
Australia	0	0	0	0
Egypt	0	0	4	16
Malaysia	22	37	0	0
New Zealand	98	163	9	15
Thailand	681	2,100	424	1,284
Taiwan	12	24	50	155
Other	0	0	0	0
TOTAL	1,211	2,890	1,437	3,269
Source: China's Customs Statistics				

Imports: Other Citrus Fruit, Fresh and Dried (HS 0805.9000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Malaysia	34	56	0	0
Thailand	11	19	0	0
Other	1	0	0	0
TOTAL	46	75	0	0

Source: China's Customs Statistics

Imports: CITRUS JAMS, FRUIT JELLIES, ETC. (HS 2007.9100)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
United States	40	19	8	12
Thailand	217	483	0	0
Brazil	315	206	0	0
Denmark	18	15	18	14
South Korea	7	7	0	0
Taiwan	3	4	7	18
Indonesia	0	0	0	0
Switzerland	6	1	6	2
France	7	2	14	6
Greece	1	1	0	0
Other	2	0	0	1
TOTAL	616	738	53	53

Source: China's Customs Statistics

Imports: FROZEN ORANGE JUICE (HS 2009.1100) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A.	1,408	1,452	1,551	1,904
Brazil	5,265	3,753	8,427	8,472
Australia	21	39	0	0
Netherlands	27	19	32	18
Taiwan	1	1	0	0
South Korea	0	0	7	21
Hong Kong	0	0	0	0
Israel	1,224	1,136	2,190	2,197
France	0	0	0	1
Spain	0	0	17	34
Switzerland	0	0	0	0
Belgium	23	14	0	0
Italy	275	191	272	199
Other	0	0	1	0
TOTAL	8,244	6,605	12,497	12,848
Source: China's Customs Statistics				

Imports: ORANGE JUICE, NOT FROZEN (HS 2009.1900) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A.	75	86	105	103
Australia	490	902	922	1,543
New Zealand	0	0	0	0
Canada	5	10	3	2
Brazil	193	315	265	355
South Africa	0	0	0	0
Hong Kong	88	163	117	266
Japan	4	3	3	3
Oman	0	0	3	5
Philippines	11	32	5	9
Singapore	0	0	0	0
South Korea	65	222	31	126
Thailand	0	0	1	1
Taiwan	27	40	9	13
Israel	29	28	132	130
Denmark	78	60	653	524
Germany	62	33	4	2
Netherlands	0	1	0	0
France	9	11	8	10
Great Britain	1	0	0	0
Spain	62	130	60	139
Austria	0	0	9	17
Hungary	2	7	15	31
Other	2	1	0	0
TOTAL	1,203	2,047	2,344	3,277
Source: China's Customs Statistics				

Imports: GRAPEFRUIT JUICE (HS 2009.2000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
U.S.A.	329	297	493	390
Australia	6	10	23	43
Canada	14	13	0	0
Taiwan	0	0	9	51
South Korea	0	0	1	2
Israel	100	68	73	68
Austria	0	0	1	2
Netherlands	0	0	18	9
Germany	29	11	4	2
Spain	4	9	0	0
Italy	11	8	45	24
Other	0	1	1	0
TOTAL	491	416	668	592
Source: China's Customs Statistics				

Imports: OTHER SINGLE CITRUS JUICE, NOT MIXED (HS 2009.3000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
United States	54	20	17	4
Canada	22	20	0	0
Spain	10	17	0	0
Vietnam	8	17	0	0
South Korea	8	25	8	26
Japan	1	0	35	4
Australia	19	29	1	2
Taiwan	10	12	2	2
Great Britain	9	3	16	7
Germany	2	0	4	1
Italy	1	0	3	2
Denmark	14	11	265	216
Switzerland	3	1	2	1
Other	0	0	2	1
TOTAL	161	156	355	265
Source: China's Customs Statistics				

Exports of Citrus from China, China Customs Data
(Value: $'000, Volume: Metric Tons)
Exports: ORANGES, FRESH OR DRIED (HS 0805.1000)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Hong Kong	235	1,571	222	1,734
Japan	0	0	2	2
Macau	16	84	11	51
North Korea	1	2	0	0
Mongolia	3	18	0	0
Philippines	14	48	43	215
Singapore	58	300	0	0
Indonesia	19	40	0	0
Malaysia	8	42	5	79
Myanmar	2	14	4	11
Vietnam	45	208	21	147
Nepal	4	5	0	0
Kazakhstan	0	0	0	0
Kirghizia	0	0	0	0
Russia	16	60	24	102
Other	0	2	0	0
TOTAL	420	2,393	332	2,341

Source: China's Customs Statistics

Exports: TANGERINES, FRESH OR DRIED
MANDARINS/ JIAO ORANGES/ OTHER (HS 0805.2010, 0805.2090)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Hong Kong	3,078	23,291	1,505	10,721
Indonesia	5,225	22,059	5,147	19,682
Brunei	204	562	174	555
North Korea	149	960	76	596
Macau	56	318	88	549
Malaysia	7,004	26,105	10,401	45,167
Philippines	9,599	35,645	8,013	29,991
Singapore	3,279	22,277	1,401	5,717
Thailand	4	24	0	0
Vietnam	2,430	13,589	1,845	9,292
Taiwan	19	57	0	0
Cambodia	5	23	0	0
Myanmar	0	0	2	14
Japan	31	4	28	70
South Korea	0	0	16	209
Nepal	2	5	0	0
India	18	90	0	0
Saudi Arabia	34	146	0	0
Hungary	88	656	0	0
Mongolia	7	59	7	40
Kazakhstan	44	153	20	64
Kirghizia	31	146	12	58
Russia	4,661	18,779	3,104	14,700
United States	23	71	53	186
Canada	5,418	14,886	7,301	17,446
Other	5	0	0	0
TOTAL	41,414	179,904	39,193	155,058

Source: China's Customs Statistics

Exports: LEMONS AND LIMES, FRESH OR DRIED (HS 0805.3000)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Hong Kong	0	0	2	2
Russia	2	2	29	76
Myanmar	0	0	1	3
Singapore	0	0	8	4
Other	1	0	1	1
TOTAL	3	2	41	86
Source: China's Customs Statistics				

Exports: GRAPEFRUIT, FRESH OR DRIED (HS 0805.4000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Hong Kong	345	2,605	411	3,183
Indonesia	8	15	14	49
Macau	27	210	92	919
Philippines	11	31	43	204
Singapore	29	139	17	95
Vietnam	28	164	0	0
Cambodia	2	6	0	0
Malaysia	2	5	2	24
Great Britain	8	19	7	36
Netherlands	0	4	1	11
Italy	0	0	0	0
Canada	125	471	192	721
U.S.A.	0	0	0	0
Other	0	1	2	0
TOTAL	585	3,670	781	5,244
Source: China's Customs Statistics				

Exports: OTHER CITRUS FRUIT, FRESH AND DRIED (HS 0805.9000) (Value: $'000, Volume: Metric Tons)				
Destination	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume

Canada	1,090	2,360	540	1,067
Singapore	30	244	31	352
Hong Kong	278	2,038	1,189	9,216
Russia	11	47	0	0
Belgium	0	0	0	1
Australia	1	0	0	0
Vietnam	1	22	0	0
Malaysia	60	192	23	89
Philippines	6	18	33	144
Indonesia	51	216	90	237
Mongolia	0	0	0	0
Japan	85	99	20	18
Myanmar	16	84	32	210
Macau	9	73	0	0
North Korea	0	0	8	55
Other	0	1	1	0
TOTAL	1,638	5,393	1,967	11,390
Source: China's Customs Statistics				

Exports: CITRUS JAMS, FRUIT JELLIES, ETC. (HS 2007.9100) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
United States	3	3	0	0

Saudi Arabia	101	126	0	0
Hong Kong	24	32	57	90
Japan	0	8	91	68
U.A.E.	16	18	0	0
Oman	0	0	1	1
Australia	0	0	7	5
Philippines	3	11	0	0
Thailand	2	2	0	0
Taiwan	27	36	18	36
Other	1	0	1	1
TOTAL	177	235	175	201
Source: China's Customs Statistics				

Exports: FROZEN ORANGE JUICE (HS 2009.1100)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Israel	0	0	0	0
U.A.E.	0	0	6	6
Hong Kong	1,590	1,292	2,055	1,631
Singapore	0	0	49	40
Malaysia	19	25	0	0
Taiwan	10	6	0	0
Other	0	0	0	0
TOTAL	1,619	1,323	2,110	1,677
Source: China's Customs Statistics				

Exports: ORANGE JUICE, NOT FROZEN (HS 2009.1900)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Hong Kong	737	819	769	853
North Korea	0	0	1	1
Japan	0	0	27	32

Portugal	2	1	0	0
Spain	4	3	0	0
Philippines	8	19	0	0
Singapore	16	37	18	28
Italy	0	0	1	1
United States	0	0	2	8
Canada	0	0	0	0
Other	1	0	0	0
TOTAL	768	880	818	923
Source: China's Customs Statistics				

Exports: CITRUS FRUIT, PRESERVED & PREPARED, IN AIRTIGHT CONTAINERS (HS 2008.3010)
(Value: $'000, Volume: Metric Tons)

Origin	---MY 1999/00---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
North Korea	15	24	0	0
Hong Kong	412	507	55	87
Japan	57,589	78,335	48,139	62,990
Malaysia	121	243	124	268
Philippines	623	896	558	752

Indonesia	18	36	57	95
Saudi Arabia	110	269	180	387
Singapore	63	121	89	144
South Korea	1,123	1,688	925	1,369
Thailand	373	694	5,338	7,723
Myanmar	80	171	58	126
U.A.E.	0	0	10	16
Yemen	210	450	267	540
Taiwan	104	180	198	361
Great Britain	336	633	460	811
France	0	0	23	35
Germany	10,689	19,372	15,487	25,343
Poland	58	72	72	117
Italy	17	31	8	9
Netherlands	936	1,582	2,496	4,039
Norway	77	108	75	106
Sweden	129	196	99	136
Denmark	43	68	22	32
Austria	19	34	10	16
Greece	15	24	0	0
Portugal	0	0	5	7
Hungary	18	32	28	49
Romania	8	16	0	0
Belgium	1	1	34	51
Russia	12	29	21	33
Czech Republic	670	1,227	901	1,595
South Africa	32	56	15	25
Argentina	15	31	0	0
Costa Rica	19	31	0	0
Uruguay	0	0	22	31
Canada	2,243	3,620	2,978	4,486
U.S.A.	40,195	57,476	40,676	57,101
Puerto Rico	27	52	45	71
Australia	263	387	259	384
New Zealand	48	69	23	38
Other	0	0	0	0
TOTAL	116,705	168,762	119,753	169,374
Source: China's Customs Statistics				

Exports: CITRUS FRUIT, PRESERVED & PREPARED, NES CONTAINERS (HS 2008.3090) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1998/99---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
United States	0	0	0	1
Thailand	62	137	0	0
Hong Kong	90	144	22	35
Malaysia	20	54	0	0
Saudi Arabia	51	74	0	0
Singapore	2	11	0	0
Taiwan	0	0	0	0
Germany	0	0	0	0
Netherlands	0	0	18	48
Italy	0	0	14	18
Japan	0	0	16	12
Other	2	1	2	0
TOTAL	227	420	72	114
Source: China's Customs Statistics				

Exports: OTHER SINGLE CITRUS JUICE, NOT MIXED (HS 2009.3000) (Value: $'000, Volume: Metric Tons)				
Origin	---MY 1998/99---		---MY 2000/01 ---	
	Value	Volume	Value	Volume
Malaysia	153	234	153	234
Singapore	25	36	35	54
Saudi Arabia	22	36	237	378
North Korea	0	0	2	3
Taiwan	0	0	10	18
Hong Kong	59	30	42	22
Canada	12	18	0	0
Japan	13	17	12	18

Germany	0	0	0	0
Other	0	0	0	0
TOTAL	282	371	491	726
Source: China's Customs Statistics				

Monthly Imports of Oranges, China Customs Data (Metric Tons) (Marketing Year 1997/98-2000/2001)				
Month	1997/98	1998/99	1999/2000	2000/01
October	774	302	2,548	4,707
November	114	361	2,772	1,948
December	605	902	891	1,282
January	117	84	912	4,897
February	88	440	3,125	2,201
March	139	1,271	4,339	3,682
April	263	1,104	3,721	6,319
May	257	363	3,455	4,597
June	357	1,782	6,203	5,401
July	430	3,522	5,931	6,335
August	323	2,858	7,705	6,726
September	214	6,005	6,107	8,988
TOTAL MY	3,681	18,994	47,709	57,083

Monthly Exports of Oranges, China Customs Data (Metric Tons) (Marketing Year 1997/98-2000/2001)				
Month	1997/98	1998/99	1999/2000	2000/01
October	13	23	0	44
November	53	607	121	285
December	1,030	2,453	239	166
January	599	547	317	519
February	541	1,740	522	338
March	427	556	81	136
April	596	156	396	134
May	129	700	238	227
June	25	428	106	80
July	8	160	210	0
August	23	135	105	413

September	0	0	86	0
TOTAL MY	3,444	7,505	2,421	2,342

Monthly Exports of Tangerines, China Customs Data (Metric Tons) (Marketing Year 1997/98-2000/2001)				
Month	1997/98	1998/99	1999/2000	2000/01
October	12,112	4,967	4,638	5,407
November	21,819	16,517	22,506	19,960
December	56,605	34,293	42,292	52,995
January	39,746	43,828	55,705	40,080
February	29,455	29,587	19,604	18,338
March	17,370	15,106	23,805	10,769
April	7,280	1,966	9,970	3,240
May	1,175	1,424	923	226
June	224	5	185	63
July	213	3	20	2,646
August	12	0	0	94
September	104	310	255	1,241
TOTAL MY	186,115	148,006	179,903	155,059

Trade Policy

China during the year 2001 cut the import tariffs of all varieties citrus fruit and most processed citrus products. The import tariffs on fresh citrus last year were 40 percent on all varieties, but are now 35 percent for oranges, tangerines, lemons, limes, pomelos, and grapefruit. All other varieties had their tariff cut to only 38 percent. Most processed citrus products also had their tariffs cut. The only exception was frozen orange juice whose tariff remained the same at 35 percent. Under the U.S.-China WTO accession agreement, China's tariffs on fresh citrus should drop to 12 percent by the year 2004.

China's Value Added Tax on all imports remains and the rates are unchanged. The current rates are 13 percent on the total value of fresh citrus products and 17 percent for processed citrus products. This tax's rates are not expected to change anytime in the near future.

China in the year 2001 became an official member of the World Trade Organization (WTO), but implemented the U.S. agricultural trade accord which eliminated phytosanitary restrictions on U.S. citrus imports two years before in 1999. At the present time, China not only allows the importation of citrus from U.S. states of Arizona and Texas, but also select counties of the U.S. states of California and Florida. The California counties include: Butte, Fresno, Glenn, Imperial, Kern, Kings, Madera, Merced, Monterey, Orange, Placer, Riverside, San Bernadino, San Diego, San Luis Obispo, Santa Barbara, Santa Clara, Stanislaus, Tulare, and Venture. As for

Florida, the counties include: Brevard, Collier, Desoto, Glades, Hardee, Hendry, Highland, Indian River, Lake, Lee, Manatee, Martin, Okeechobee, Osceola, Palm Beach, Sarasota, St. Lucie, and Volusia. However, under this agreement, imported U.S. citrus can enter China only through certain ports. These ports include: Dalian, Guangzhou, Haikou, Nanjing, Qingdao, Shanghai, and Tianjin. Despite the earlier phytosanitary restrictions, U.S. fresh citrus had been entering China through unofficial trade channels for over a decade.

Concern of some local Chinese agricultural officials about the effects of WTO membership has lessened over the last year. For example, a couple of years ago, Guangdong Agricultural Bureau officials indicated concern that WTO membership could harm their province's citrus industry due to increased imports, but now do not expect such a large negative impact. Other provinces' agricultural bureau officials have recently expressed similar views.

China Citrus Import Tariffs and Value Added Tax Rates

COMMODITIES	Import Duty Rate		Value-Added Tax Rate	Eff. Min. Duty Rate
	Min. 1/	Gen. 2/		
FRESH:				
Oranges, Fresh/Dried	35	100	13 / 17	53 / 58
Tangerines, Fresh/Dried	35	100	13 / 17	53 / 58
Lemons & Limes, Fresh/Dried	35	100	13 / 17	53 / 58
Grapefruit/Pomelos, Fresh/Dried	35	100	13 / 17	53 / 58
Other citrus, Fresh / Dried	38	100	13 / 17	53 / 58
CANNED:				
Citrus	28	90	17	50
Other Citrus Preps	28	80	17	50
FRUIT JUICE:				
Orange Juice (frozen)	35	90	17	58
Orange Juice (unfrozen)	34	90	17	57
Grapefruit/Pomelo Juice	31	90	17	53
Other citrus juice	32	90	17	54

Notes:
1/ Minimum rate is applied to imports from countries enjoying most favored nation (MFN) trading status with China, including the U.S.A. Once China becomes a member of the World Trade Organization, the minimum rate will apply to all other members and possibly non-member countries with special trade treaties with China.
2/ General rate is applied to imports from non-MFN trading partners. Once China becomes a member of the World Trade Organization, the general rate will apply to all of China's non-member trading partners unless a special trade treaty exits between China and the non-member country.
3/ Effective Minimum Duty Rate = Duty Rate + (1+Duty Rate) * Value Added Tax Rate

All duties and taxes are applied on a CIF ad valorem basis.
Import Tax = (CIF Value)* Duty Rate
VAT Tax = (CIF Value + Import Tax) * VAT Rate

Source: PRC Customs Tariffs Handbook 2001

Marketing

The best tactics for U.S. exporters to enter the Chinese citrus market are to establish and build ties with citrus importers in both China and Hong Kong, plus imported fruit distributors in China's major cities. Establishing and building ties with the Hong Kong fruit importers is important in doing business, because many of China's fruit importers already have ties with these participants and some importers allow them to make specific choices in regards to overseas suppliers.

For establishing and building ties among Chinese companies, conducting seminars, distributing Point of Sales materials, and participating in major trade exhibitions are all methods proven to be beneficial. Users of such methods during the 1990s have been the California Table Grapes Commission, the Washington Apple Commission, and Zespri Kiwifruit of New Zealand.

Marketing activities should also cover consumer education. Methods to consider include: retail promotion and consumer trade show participation. Regarding retail promotion participation, the focus probably should be on the hypermarkets, because practically all carry fresh fruit and their sales volumes tend to be higher than regular local supermarkets.

The most difficult marketing period for imported fresh citrus fruit is from November to April. Although Chinese New Years often inspire sales for gift purposes, the contemporaneously harvested domestic crop is also available at that time and at prices much lower than imported varieties. Price still is a major factor in Chinese consumers' purchasing decisions.

PSD Table						
Country	China, Peoples Republic of					
Commodity	Fresh Citrus,Other				(HECTARES)(1000 TREES)(1000 MT)	
	Revised	2000	Preliminary	2001	Forecast	2002
	Old	New	Old	New	Old	New
Market Year Begin		01/2000		01/2000		01/2000
Area Planted	1140149	1282870	983466	1275000	0	1286000
Area Harvested	1050600	1182112	872109	1132392	0	1170260
Bearing Trees	1090650	1090650	920500	920500	0	1070800
Non-Bearing Trees	177270	177270	402007	402007	0	189000
TOTAL No. Of Trees	1267920	1267920	1322507	1322507	0	1259800
Production	10787059	10787059	8783129	8783129	0	10012767
Imports	19	19	50	72	0	85
TOTAL SUPPLY	10787078	10787078	8783179	8783201	0	10012852

Exports	156	156	181	174	0	210
Fresh Dom. Consumption	10786318	10786318	8782768	8782781	0	10012302
Processing	604	604	230	246	0	340
TOTAL DISTRIBUTION	10787078	10787078	8783179	8783201	0	10012852

Export Trade Matrix			
Country	China, Peoples Republic of		
Commodity	Fresh Citrus,Other		
Time period		Units:	
Exports for:	1999		2000
U.S.	23635	U.S.	233554
Others		Others	
Philippines	34070529	Malaysia	38347184
Singapore	29743932	Philippines	36876009
Malaysia	24294783	Hong Kong	29983940
Hong Kong	22984175	Indonesia	24267348
Canada	17813285	Singapore	20305098
Vietnam	17245038	Canada	17588742
Russia	15147319	Russia	16632088
Indonesia	12022948	Vietnam	11825448
North Korea	932944	Macau	981850
Brunei	701445	North Korea	858539
Total for Others	174956398		197666246
Others not Listed	1310802		2375106
Grand Total	176290835		200274906

Import Trade Matrix			
Country	China, Peoples Republic of		
Commodity	Fresh Citrus,Other		
Time period		Units:	
Imports for:	1999		2000

U.S.	938513	U.S.	34744798
Others		Others	
New Zealand	15489211	New Zealand	23565303
South Africa	4072421	Thailand	2396496
Taiwan	2606367	South Africa	505543
Thailand	1651495	Australia	148191
Philippines	924036	Chile	136268
Australia	775344	Taiwan	121649
Indonesia	466772	Malaysia	93124
Egypt	451011	Japan	48690
Canada	407839	Canada	44135
Spain	400285	Philippines	20160
Total for Others	27244781		27079559
Others not Listed	1505624		36459
Grand Total	29688918		61860816